

Additions to the Flora of North Gujarat (Ahmedabad- Mehsana-Sabarkantha Districts)^{1 & 2}

BY

G. L. SHAH AND D. V. YOGI

*Department of Botany, Sardar Patel University, Vallabh Vidyanagar,
Gujarat*

Several papers have been published on the flora of some parts of south and central Gujarat and Saurashtra. However, the information, available on the flora of north Gujarat through the works of Saxton & Sedgwick (1918), Saxton (1922) and C. K. Shah (1963), remains incomplete as many of the areas within the limits of north Gujarat are not yet botanically explored. Hence it was thought desirable to explore botanically as many areas of Mehsana and Sabarkantha districts as possible with a view to fill this lacuna. The present study was confined to Mansa, Mahudi, Lakroda, Pahada and Keshni in Mehsana district and Himatnagar, Idar, Khedbrahama, Vireshwar, Sarneshwar and Vijaynagar in Sabarkantha district. During the course of the intensive explorations of these areas from 1965 onwards, extensive collections were made. The total number of species so far reported from north Gujarat (excluding Lunawada which did not fall within the limits of north Gujarat even at the time of Saxton and Sedgwick) is 672 to which 8 cyperaceae have been added by C. K. Shah (1963). Almost all the plants listed by earlier workers have been collected by us. In addition, there are about 200 species in our collections, which are reported here for the first time from north Gujarat.³ In the list cultivated plants are omitted unless they are naturalised or escapes.

Geographically Mahudi, Pahada and Lakroda are on the banks of river Sabarmati, Keshni on the bank of river Khari, whereas Himatnagar and Khedbrahama are situated on the banks of rivers Hathmati

¹ Accepted October 24, 1970.

² Based on the Ph.D. Thesis accepted by Sardar Patel University.

³ BHATT ET AL. (*Bull. Bot. Surv. Ind.* 11:311-321), published (1972) since this paper was prepared lists some of the species recorded by us—GLS.

and Harnav respectively. All the explored areas are well knit by State Transport Buses from Ahmedabad, plying at all seasons. Ahmedabad-Khedbrahama railway line also connects Ahmedabad, Himatnagar, Idar and Khedbrahama.

Total number of species now known from north Gujarat is nearly 880, indicating that the flora is quite rich. However, the vegetation of the areas explored is predominantly a scrub forest type but that of Vireshwar and Sarneshwar is a dry deciduous type with *Butea-Alangium* community as dominant. The forests in these areas are dense but *Tectona grandis* Linn. f. and *Terminalia crenulata* Roth are rather occasional.

For the details of nomenclature Santapau & Janardhanan (1967), Rau (1969) and Shah (1969) may be consulted. The species prefixed by an asterisk are not given in Cooke's Flora (1901-08).

Though we have collected plants from Mehsana and Sabarkantha districts, Ahmedabad district is also included in the title as there are some plants in the list from Ahmedabad, collected by Saxton and/or Sedgwick, but not listed by them. Further all the districts are adjacent.

LIST OF PLANTS

FUMARIACEAE

Fumaria indica Pugsley

PAPAVERACEAE

Papaver somniferum Linn.

BRASSICACEAE (CRUCIFERAE)

Brassica campestris Linn. var. sarson Prain

Lepidium sativum Linn.

Raphanus sativus Linn.

CAPPARACEAE

Cleome aspera Koen. ex DC.

C. monophylla Linn.

VIOLACEAE

Viola cinerea Boiss. var. *stockii* Beck. form *kathiawarensis* Beck.

CARYOPHYLLACEAE

Spergula arvensis Linn.

PORTULACACEAE

Portulaca tuberosa Roxb.

Talinum portulacastrum (Forsk.)

Aschers. & Schweinf.

MALVACEAE

Abelmoschus ficulneus (Linn.) Wt. & Arn.

A. manihot (Linn.) Medic.

Abutilon glaucum (Cav.) Sw.

Azanza lampas (Cav.) Alef.

Hibiscus hirtus Linn.

H. vitifolius Linn.

Senra incana Cav.

Sida acuta Burm. f.

S. glutinosa Cav.

S. rhombifolia Linn. var. *retusa* Mast.

TILIACEAE

Grewia damine Gaertn.

Grewia tiliaefolia Vahl

Triumfetta rhomboidea Jacq.

T. pentandra A. Rich.

LINACEAE

Linum usitatissimum Linn.

OXALIDACEAE

Biophytum sensitivum (Linn.)
DC.

BURSERACEAE

Commiphora wightii (Arn.)
Bhand.

Garuga pinnata Roxb.

RHAMNACEAE

Zizyphus horrida Roth.

Z. xylopyra Willd.

VITACEAE

Cissus quadrangularis Linn.

C. repanda Vahl

PAPILIONACEAE

Alysicarpus rugosus DC. *var.*
minor Prain

Clitoria biflora Dalz.

Crotalaria albida Heyne ex Roth

C. triquetra Dalz.

Dalbergia latifolia Roxb.

Desmodium laxiflorum DC.

D. neomexicanum A. Gray

Dolichos biflorus Linn.

***Lathyrus aphaca** Linn.

Medicago polymorpha Linn.

M. lacinitata All.

M. sativa Linn.

Phaseolus angularis (Willd.) Wt. &

P. dalzelli Cooke

P. mungo Linn.

P. radiatus Linn.

Pueraria tuberosa (Roxb.) DC.

Rhynchosia aurea DC.

Sesbania cannabina (Retz.) Pers.

Smithia conferta Sm.

***Tephrosia hamiltonii** Drum.

T. pauciflora Grah.

T. purpurea (Linn.) Pers.

Vigna capensis Walp.

CAESALPINIACEAE

Bauhinia tomentosa Linn.

Cassia angustifolia Vahl

C. fistula Linn.

C. kleinii Wt. & Arn.

C. obtusifolia Linn.

C. sophera Linn.

MIMOSACEAE

Acacia ferruginea DC.

Albizzia odoratissima Bth.

COMBRETACEAE

Anogeissus latifolia (Roxb.)
Wall. ex Bedd.

Combretum ovalifolium Roxb.

Terminalia bellerica (Gaertn.)
Roxb.

LYTHRACEAE

***Ammannia desertorum** Blatt. &
Hallb.

CUCURBITACEAE

Solena heterophylla Lour.

Trichosanthes bracteata (Lam.)
Voigt.

APIACEAE (UMBELLIFERAE)

Centella asiatica (Linn.) Urb.

Trachyspermum stictocarpum
var. stictocarpum

RUBIACEAE

Adina cordifolia (Roxb.) Hook.
f. ex Brandis

Ixora brachiata Roxb.

Xeromphis spinosa (Thunb.)
Keay

ASTERACEAE (COMPOSITAE)

Acanthospermum hispidum DC.

Blumea bifoliata DC.

B. membranacea DC.

B. oxydonta DC.

Gnaphalium luteoalbum Linn.

Laggera alata (Don) Sch.-Bip.
ex Oliver

L. aurita (Linn. f.) Sch.-Bip.

Launaea residifolia (Linn.)
Druce

Pluchea wallichiana DC.

***Pulicaria crispa** Sch.-Bip.

Sonchus asper (Linn.) Hill.

S. brachyotus DC.

PLUMBAGINACEAE

Dyrophytum indicum (Gibs. ex Wt.) O. Ktze.

SALVADORACEAE

Azima tetraantha Lam.

APOCYNACEAE

Wrightia tomentosa Roem. & Schult.

ASCLEPIADACEAE

Pentatropis spiralis (Forsk.) Decne.

Tylophora fasciculata Buch.-Ham.

PERIPLOCACEAE

Hemidesmus indicus (Linn.) Schult.

LOGANIACEAE

Cynoctonum mitreola (Linn.) Britt.

GENTIANACEAE

Nymphoides cristatum (Roxb.) O. Ktze.

BORAGINACEAE

Heliotropium ellipticum Ledeb.

EHRETIACEAE

Cordia gharaf (Forsk.) Ehrenb. ex Asch.

CONVOLVULACEAE

Ipomoea optica (Linn.) Roth

SCROPHULARIACEAE

Lindernia oppositifolia (Retz.) Muk.

L. verbenaeifolia (Colsm.) Pennell

GESNERIACEAE

Didymocarpus pygmaea Cl.

BIGNONIACEAE

Tecomella undulata (Sm.) Seem.

ACANTHACEAE

Barleria cuspidata Heyne ex Nees

***B. prattensis** Sant.

Dipteracanthus patulus (Jacq.) Nees

Eranthemum roseum (Vahl) R. Br.

Justicia diffusa Willd.

J. heterocarpa T. Anders.

J. simplex D. Don

Lepidagathis cristata Willd.

VERBENACEAE

Gmelina arborea Roxb.

Lantana salvifolia Jacq.

LABIATAE

Acrocephalus indicus (Burm. f.) O. Ktze.

Leucas longifolia Benth.

L. zeylanica R. Br.

Salvia plebeia R. Br.

PLANTAGINACEAE

Plantago ovata Forsk.

***P. psyllium** Linn.

AMARANTHACEAE

***Achyranthes aspera** var. **prop-hyristachya** Hook. f.

Aerva sanguinolenta (Linn.) Bl.

Amaranthus hybridus Linn. ssp.

cruentus (Linn.) Thell. var.

paniculatus (Linn.) Hell.

A. tricolor Linn.

A. viridis Linn.

***Gomphrena celosioides** Mart.

CHENOPODIACEAE

Salsola baryosma (Roem. & Schult.) Dandy

POLYGONACEAE

Polygonum glabrum Willd.

ARISTOLOCHIACEAE

Aristolochia bracteolata Lam.

EUPHORBIACEAE

Baliospermum montanum (Willd.) Muell.-Arg.

Bridelia squamosa (Lam.) Gehrm.

***Dalechampia scandens** Linn. var. **cordofana** (Hochst. ex A. Rich.) Muell.-Arg.

- Euphorbia chamaesyce** Linn.
E. clarkeana Hook. f.
E. geniculata Orteg.
Jatropha curcas Linn.
Phyllanthus simplex Linn.
P. urinaria Linn.
Putranjiva roxburghii Wall.
Securinega virosa (Roxb. ex Willd.) Pax & Hoffm.
- MORACEAE
- Ficus amplissima** Sm.
F. arnottiana Miq.
- CANNABACEAE
- Cannabis sativa** Linn.
- HYDROCHARITACEAE
- Nechamandra alternifolia** (Roxb.) Thw.
- Ottelia alismoides** (Linn.) Pers.
- ZINGIBERACEAE
- Curcuma inodora** Blatt.
- AMARYLLIDACEAE
- Crinum pratense** Herb.
- HYPOXIDACEAE
- Curculigo orchiioides** Gaertn.
- DIOSCOREACEAE
- Dioscorea hispida** Linn.
D. pentaphylla Linn.
- LILIACEAE
- Asparagus gonocladus** Baker
Chlorophytum tuberosum (Roxb.) Baker
- ARECACEAE (PALMAE)
- Borassus flabellifer** Linn.
Calamus rotang Linn.
Phoenix sylvestris (Linn.) Roxb.
- COMMELINACEAE
- Commelina forskalaei** Vahl
***C. kurzii** Clke.
***C. paludosa** Bl.
Cyanotis cristata Schult. f.
- ARACEAE
- Amorphophallus** sp.
Pistia stratiotes Linn. var. **cuneata** Engl.
- Sauromatum venosum** (Ait.) Kunth
- LEMNACEAE
- Lemna paucicostata** Hegelm.
Wolffia microscopica (Griff.) Kurz
- NAJADACEAE
- Potamogeton crispus** Linn.
P. nodosus Linn.
- ERIOCAULACEAE
- Eriocaulon cleanorae** Fyson
- CYPERACEAE
- *Cyperus alulatus** Kern
C. compressus Linn.
C. cyperioides (Linn.) O. Ktze.
Eriophorum comosum Wall. ex Nees
***Fimbristylis sieberiana** Kunth
Rhynchospora wightiana Steud.
- POACEAE (GRAMINEAE)
- Aristida setacea** Retz.
Avena sativa Linn.
Cenchrus pennisetiformis Hochst. & Steud. ex Steud.
Crypsis schoenoides (Linn.) Lam.
Cymbopogon citratus (DC.) Stapf
***C. gidarba** (Ham. ex Hook. f.) Haines
C. martinii Wats.
***Cynodon barberi** Rang.
***Digitaria adscendens** H.B.K. ssp. **adscendens** var. **criniformis** Henr.
Echinochloa stagnina (Retz.) Beauv.
***Ischaemum goebelii** Hack.
***Setaria pallide-fusca** (Schum.) Stapf & C. E. Hubb.
Sorghum vulgare Pers.
Sporobolus piliferus (Trin.) Kunth
Triticum aestivum Linn.

ACKNOWLEDGEMENTS

We are deeply grateful to late Dr. H. Santapau, and Prof. P. V. Bole of St. Xavier's College, Bombay for facilities to work in the Blatter Herbarium, Bombay. Sincere thanks are also due to Prof. G. T. Pandya for allowing us to consult the collections of Saxton and Sedgwick and Dr. R. S. Rao, Regional Botanist, Botanical Survey of India, Poona, for confirming the identifications of some grasses.

REFERENCES

- COOKE, T. H. (1901-08): The flora of the Presidency of Bombay. London.
- RAU, M. A. (1969): Flora of the upper Gangetic plain and of the adjacent Siwalik and sub-Himalayan tracts. *Bull. bot. surv. India* 10 (Suppl. 2): 1-87.
- SANTAPAU, H. & JANARDHANAN, K. P. (1967): The flora of Saurashtra: Check-list. *ibid.* (Suppl. 1): 1-58.
- SHAH, C. K. (1963): Sedges of Sabarmati. *J. Gujarat Univ.* 6:179-185.
- SHAH G. L. (1969): Nomenclatural changes in some Bombay plants—III. *J. Bombay nat. Hist. Soc.* 66: 231-233.
- SAXTON, W. T. (1922): Additional notes on plants of Northern Gujarat. *Rec. bot. Surv. India* 4:251-262.
- & SEDGWICK, L. J. (1918): Plants of Northern Gujarat. *ibid.* 6(7):209-323.